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EIS000475

RECEIVED

DEC 22 1999

December 7, 1999

Re: Public Comment on DOE Draft Environmental Impact Statement (EIS) for the Yucca Mountain High-Level Radioactive Waste Disposal Site

Dear Ms. Dixon:

Please include the following correspondence with attachments as part of the official record of proceedings on the above-referenced agency action.

1

The continual "lowering of the bar/standards" by the agency as it moves the siting process forward is both unreasonable and contrary to the agency's own guidelines and procedures. The agency cannot and must not sink to the level of industry/special interest advocate demands to get the job done at Yucca Mountain in the absence of "sound science." The agency cannot lawfully implement tactics which, in the absence of sound science, make it sound like science.

2...

The agency is proposing to construct a facility designed to isolate High Level Radioactive Waste from the human and natural environment based upon a proposed standard which would be in effect for 10,000 years. Human history has little track record with 10,000 year construction projects. In actual fact minus interested party spin doctoring, present day humans have little, if any, knowledge of human construction projects completed and/or attempted 10,000 years in the past in the Nevada desert or elsewhere.

To further compound the lack of scientific coherence, the numbers don't add! Peak doses from the disposed HLRW are anticipated to occur some 200,000 thousand years in the future. "Acceptable" levels of radioactive releases from the Yucca Mountain disposal facility should, according to sound science (and basic logic) be calculated to correspond with the same time frame which scientific calculations indicate peak doses are most likely to occur--some 200,000 thousand years into the future. 1999 or 2000 calendar year best available technology apparently is insufficient to adequately contain the radioactivity of HLRW for 10,000 years, for 200,000 years, and for the half-lives of Plutonium-239 (24,130 years), Technetium-99 (213,000 years), Thorium-232 (14 Billion years), Uranium-235 (7 million years), and Uranium-238 (45 million years). See Attachment I. However, the agency has mandate to adhere the standards of protection currently in law rather than re-write lower standards and "permanently" withdraw 230 square miles of federal land to isolate a site of less than 2 square miles in actual site size.

A maximally exposed individual (MEI) who has the highest exposure within the receptor group is assumed by the agency to be located at the point of maximum concentration of contaminants 24 hours a day, 7 days a week for the period of operations (which is multiple generations of human lifetimes). Regulatory dose limits for individual members of the public as applied to all other sites are currently defined by U.S. EPA and NRC regulations and DOE orders. Safe Drinking Water Act limits (apparent exception for the Yucca Mountain Repository) 4mrem/yr. maximum dose from drinking water. Clean Air Act sets maximum dose limit from airborne emissions at 10/mrem/ yr. (apparent exception to population and MEI surrounding Yucca Mountain). Dose limitations for all pathways combined is set by DOE

2 cont.

Order 5400.5 and NRC regulations 10 CFR 20 at 100 mrem/yr. (apparent exception to Yucca Mountain MEI and surrounding population). (Ref.: SURPLUS PLUTONIUM DISPOSITION FINAL ENVIRONMENTAL IMPACT STATEMENT SUMMARY, NOV. 1999, DOE/EIS-0283 page S-44.) What "sound science" serves as the basis for agency determination in draft EIS to lower standards currently in regulations and agency order currently adopted as necessary for the protection of the public health and safety? It appears that the agency feels mandated under Nuclear Waste Policy Act to give the Yucca Mountain repository site its stamp of approval by lowering the current public health protection standards, even if the agency is required to side-step science and regulations to do so.

3

According to DOE, scientific determination of the rate at which water seeps into the Yucca Mountain repository is crucial to the facility's projected ability to meet performance objectives, i.e., containment of the HLRW. Rate of water seepage, according to DOE, directly impacts the period of time waste packages/containers will prevent release of radioactive materials into groundwater as well as the manner radioactive materials will eventually reach the groundwater table beneath the site. Heat generated by the waste within the repository likewise will affect the movement of water through the facility and the durability of the waste containers. Yet, DOE has shown considerable reluctance to scientifically investigate these areas. According to U.S. Geological Survey scientists, the large drop in the elevation of the water table (discovered in 1981) at the northern end of Yucca Mountain is the most striking hydrologic feature in the area and U.S.G. lacks data to explain its cause. Yet, no new boreholes and limited testing of groundwater to collect scientific data necessary to explain the hydrology of Yucca Mountain was done by U.S.G. for DOE from 1987-1997. In the alternative, DOE observed test pumping in an existing well indicated the drop in the water table at the northern end of Yucca Mountain has no effect on the flow of groundwater in the aquifer underneath the HLRW repository. It sounds like science, however, DOE has failed to investigate/collect data to determine the validity of the agency's preliminary observations concerning the hydrology of the site which is supposedly designed to secure HLRW for 10,000 years! Ref.: NUCLEAR WASTE, IMPEDIMENTS TO COMPLETING THE YUCCA MOUNTAIN REPOSITORY PROJECT, GAO/RCED-97-30, January 1997.

4

When political directives and scientific methodology collide, it appears that politics overwhelms what is known and ignores what is poorly understood. DOE has squelched science in favor of on-site construction in EIS. DOE cannot realistically expect integrity to be restored to the Yucca Mountain EIS process by end-of-the-process review by Nuclear Regulatory Commission determination that DOE's investigation and procedures were sound. In general, studies sponsored by, conducted by, and promoted by parties with vested interests in the outcome/findings tend to be less critical. Researchers found that studies financed by financially interested parties tend to report findings more favorable to the funding source(s), see Attachment II. Unconscious bias, direct financial ties, and indirect incentives were found to result in less critical findings. Likewise, early in-process bias, anticipation of results also influence findings. Science, even among scientists, is not "pure" and free of human bias.

Bluntly stated, NRC licenses generators of HLRW, particularly nuclear power plant generators! As such, NRC has considerable interest (and NRC agency funding) vested in the future of the commercial nuclear power industry. NRC has apparently overcome concern from risk of criticality from licensees in favor issuing licenses to licensees, in spite of the Three Mile Island incident! DOE apparently has likewise overcome risk to public and site workers at Yucca Mountain from uninvestigated and unanticipated immediate release of radioactive contamination to groundwater, HLRW package/container failure, and intense heat developing into criticality at the repository. DOE's SURPLUS PLUTONIUM FINAL

ENVIRONMENTAL IMPACT STATEMENT issued November 1999 states in SUMMARY Introduction, page S-1:

The U.S. Nuclear Regulatory Commission (NRC) has reviewed DOE's plans to place immobilized material into the potential geologic repository and has agreed that with adequate canister and package design features, the immobilized plutonium waste forms can be acceptable for disposal in the repository (Paperiello 1999). DOE/EIS-0283 SUMMARY page 1, footnote #2.

DOE identifies the agency's "Preferred Alternative" in the same Surplus Plutonium Draft EIS as Alternative 3:

to disposition up to 50t (55 tons) of plutonium at SRS using a hybrid approach that involves both the ceramic can-in-canister immobilization approach and the MOX approach. APPROXIMATELY 17T (19 TONS) WOULD BE IMMOBILIZED IN A CERAMIC FORM, PLACED IN CANS, AND EMBEDDED IN LARGE CANISTERS CONTAINING HIGH-LEVEL VITRIFIED WASTE FOR ULTIMATE DISPOSAL IN A POTENTIAL GEOLOGIC REPOSITORY PURSUANT TO NWPA (emphasis added). Ref.: SURPLUS PLUTONIUM DISPOSITION FINAL ENVIRONMENTAL IMPACT STATEMENT, NOV. 1999, DOE/EIS-0283 SUMMARY, page S-9.

- 5 DOE, as an agency, has already made decision to construct the Yucca Mountain repository with requirements of National Environmental Policy Act (NEPA) tagging along in no particular or meaningful order, as evidenced by DOE's SURPLUS PLUTONIUM FINAL ENVIRONMENTAL IMPACT STATEMENT, November 1999. DOE/EIS-0283 SUMMARY, under heading "Issues That Need to Be or Are Already Addressed Elsewhere states:

Some commentators suggested that the potential impacts of the disposal of the spent nuclear fuel generated by MOX fuel be included in the SPD EIS. This issue has already been addressed in the STORAGE AND DISPOSITION FEIS, and disposal of spent nuclear fuel is addressed in the DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR A GEOLOGIC REPOSITORY FOR THE DISPOSAL OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE AT YUCCA MOUNTAIN, NYE COUNTY, NEVADA (DOE 1999c). Ref.: IBID., page S-6.

- 6... Apparently the 70,000 metric ton capacity of the Yucca Mountain repository will include 17 metric tons of weapons grade plutonium plus the spent nuclear fuel and high-level radioactive waste currently on-site awaiting disposal. Has DOE calculated capacity of Yucca Mountain as sufficient for commercial and military spent nuclear fuel, as anticipated in Nuclear Waste Policy Act, plus 17 metric tons of surplus weapons grade plutonium, plus the quantity of spent nuclear fuel to be generated by MOX fuel, plus 55.2t (42 tons) of weapons-grade plutonium already declared by the President as excess to national security needs, plus weapons grade plutonium which may be declared excess surplus in the future, plus weapons-usable, reactor grade plutonium surplus to programmatic and national defense needs of DOE?

It would appear that DOE intends to construct Yucca Mountain Repository annex to accommodate considerably more than 70,000 metric tons of high-level radioactive material/whatever DOE and NRC agree to dispose in Nye County, Nevada, or interpretation in retrospect of Nuclear Waste Policy Act and its amendments are going to accommodate naming

6 cont.

a second potential candidate site for construction of a high-level radioactive waste repository AFTER construction and full-to-capacity operations of the Yucca Mountain site. Given the decidedly disingenuous nature of the entire process to date, the later re-reading of the language of Nuclear Waste Policy Act is the most likely preferred alternative by DOE and NRC in cooperation with multiple financially vested interests too numerous to mention in this correspondence.

- 7 DOE "streamlining" of the NEPA process could more accurately be termed "steamrolling" over the public and democratic process. Yet, DOE has failed to comply with the agency's own requirements as outlined for contractors in the "streamlining/steamrolling" process.

If the NEPA process is not completed before the (contract) award the contract work must be made contingent on completion of the NEPA process, and contract work must be phased to allow the NEPA process to be completed in advance of a go/no-go decision.

- 8 It is my understanding that DOE is holding public hearings in Las Vegas, Nevada on January 11, 2000 to solicit, include, and respond to comments on the Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (DOE/EIS-0250D, DOE 1999), yet DOE has already made "go" decision and published that decision in November of 1999 (in another final EIS). To further compound the deception being perpetrated by the agency upon the directly affected public, interested parties, citizens, and taxpayers, congressional intent in Nuclear Waste Policy Act is being "re-visited" by various vested-interest parties by stuffing Yucca Mountain full to capacity (70,000 metric tons) with high-level radioactive waste, while disingenuously claiming that Nuclear Waste Policy Act, with amendment, allows the same arbitrary name-a-second-high-level radioactive waste repository candidate site process. DOE is engaging in double-speak and double-cross which is incompatible with democratic process. In essence, "impediment" to construction and operation of Yucca Mountain as well as low-level radioactive disposal facilities through the regional compact system is public participation, i.e., "the opposition." DOE is, by "unintentional bias" or outright deception excluding the public from decision-making (meaningful participation) in the NEPA process while picking and choosing the science that sounds like it fits the total project design implementation plan. DOE is specifically directed by federal law and agency regulation to avoid all acts which are likely (predicted) to result in loss of trust and confidence by the people in their government and its agencies. How does DOE intend to comply, and when is compliance anticipated to begin in agency high-level radioactive waste disposal/MOX fuel/surplus plutonium disposition decision-making process? 10 CFR 1010.101 (a) requires DOE employees to:

avoid any action, whether or not specifically prohibited by regulations, which might result in, or create the appearance of: (1) using public office for private gain; (2) giving preferential treatment to any person; (3) impeding government efficiency or economy; (4) losing complete independence or impartiality; (5) making a government decision outside official channels; or (6) affecting adversely the confidence of the public in the integrity of government. Ref.: DEPARTMENT OF ENERGY, UNETHICAL CONDUCT AT DOE'S YUCCA MOUNTAIN PROJECT, GAO/OSI-96-2, September 1996, page 2.

9...

In fairness to DOE, some of the information contained in this correspondence which is at times highly critical of DOE was provided by DOE as part of the agency's public participation process. The agency does allow and provides information necessary to informed public participation. Agency weakness/area which requires improvement is its

9 cont. exclusion of crucial information and the public from actually altering and/or impacting the decision-making process. While national security needs require the agency to implement policies which result in minimum proliferation of weapons of mass destruction and means of delivery of those weapons, see Attachment III, the agency is required to act in good faith with the public and comply with NEPA, Executive Order 12674, and 10 CFR, among others. Disposal of commercially generated high and low level radioactive waste has past history of leaking facilities, public opposition and outcry, millions upon millions of taxpayer dollars for spent clean up accompanied by cost over runs with less than contract performance objectives being met by site contractors, and special interest lobbying. Federal dollars fund studies which provide data which is simultaneously much less than scientific and industry-generator-special interest advantageous. Past history strategy and tactics are replete with "buying" friends/promoters and bullying over/silencing the opposition.

10 DOE lessons learned from the splitting of the atom for nuclear weapons/national security must include these past abuses to avoid irreparable harm to democratic process. It-sounds-like-science, fund-the-research/control-the-findings, and outright bullying over the opposition (citizens) is unacceptable in a democracy. To my knowledge, Yucca Mountain has been targeted from 1982 congressional mention as a candidate site/sacrifice zone for the nuclear power industry. DOE has apparently now assigned a larger purpose, i.e., national security in weapons/reactor grade disposal which is a ruse promoted by the nuclear power industry/MOX fuel promoters. One wonders if U.S. citizens are, in fact, in considerably more danger from special interests, foreign and domestic, than from foreign military operations, see Attachments IV and V.

11 According to LOW-LEVEL RADIOACTIVE WASTES, STATES ARE NOT DEVELOPING DISPOSAL FACILITIES, GAO/RCED-99-238 no disposal facility for commercially generated low-level radioactive waste has been sited in the past 18 years despite the "compact" regional system and \$600,000.00 spent. Common "obstacles and impediments" in the siting process include:

. . .the controversial nature of nuclear waste disposal, which often manifests itself in the form of skepticism about and/or opposition to disposal facilities by members of the public and political leaders at all levels of government.
Ref.: LOW-LEVEL RADIOACTIVE WASTES, GAO/RCED-99-238, Sept. 99, page 5.

12 Opening the LLRW market to private industry could result in construction of operating facilities which would meet the needs of the commercial LLRW generators and DOE which could also be said of the High-Level radioactive waste disposal "market". DOE has obligation to cease shuffling the deck and re-dealing the cards in cooperation with NRC, the nuclear power industry, and DOE's site contractors, to the Yucca Mountain site during the High-Level Radioactive Waste disposal repository siting process and are herein respectfully requested to do so. Responding to "skepticism" is appropriate agency action, but agency actions which cause "skepticism" among members of the public and political leaders is not appropriate.

13... In related revamp of the rules, The Tennessee Valley Authority as of December 9, 1999 approved a plan to produce nuclear weapons materials in a civilian nuclear reactor, see Attachment VI. Although the separation of nuclear materials and civilian nuclear materials has, in fact, been a paper partition, policy decisions by DOE, Congress, and other federal agencies have historically made decisions using that separation policy! To further add to the "uncertainties" in context of continual rule and policy changes,

13 cont. Congress has, for the first time, allocated \$700 million taxpayer/general revenue dollars for Superfund Sites remediation/clean-up, see Attachment VI. Yucca Mountain's High-Level Radioactive Waste Repository has been promoted by the generators of the waste to be "isolated" as a project destined to be paid for by the generators. TVA recent decision and taxpayer financial burden for releases of toxic materials to the human and natural environment would certainly appear to change the rules in mid-siting process, and confuse the national interests, i.e. production of tritium, in commercial nuclear power reactors with the national interests.

14 What agency is in charge would apparently now be in state of confusion as well. DOE has historically had oversight of both civilian and nuclear power with requirements to comply with regulations of both U.S. EPA and the Nuclear Regulatory Commission (NRC). Has NRC recently, as of 12/9/99 promoted both its licensees and itself, as indicated in Attachment VI policy change? Before long time critics of DOE conclude any change from DOE is preferable, it is instructive to document public dis-information apparently from official or unofficial NRC channels to the public as published in local news media. Attachment VII is included herein as example of accuracy of information/NRC agency FR officially or unofficially distributed through the local news media. The Nuclear Regulatory Commission has been identified as the NATIONAL REGULATORY COMMISSION (NRC) by local news correspondent who obviously received that information from some source. Note that Attachment VI provides rather strong, specific, and NRC self-serving praise. NRC Meritorious Service Award recipient is described in Attachment VII as Inspector at both the Paducah, Kentucky and Portsmouth (Piketon), Ohio Gaseous Diffusion/Uranium enrichment/processing plants. The exact wording of the award received is quoted by local media columnist as:

'In recognition of his exceptional contributions in identification of safety issues and his strong dedication to the safety goals of the NRC (defined in Attachment VII as the National Regulatory Commission which either premature or inaccurate, notation in parenthesis added). His actions have provided significant benefits to the Paducah Gaseous Diffusion Plant inspection team and the Region III fuel cycle inspection program. . . .'

Three conclusions are obvious: 1) specific information was provided from some source as basis for this news column, as evidenced by the author's quotation, 2) the media spin presents NRC more than somewhat favorably, "fireworks and heat" generated at local patriotic Fourth of July celebrations are somehow propagandized as appropriate description of DOE/NRC, and 3) either premature announcement of NRC considerable increase in regulatory authority has been made or the public has been misled. Apparently the public's skepticism and adverse reaction to nuclear materials has been relieved by removal of the word "nuclear."

Details of the significant benefits to the Paducah Plant inspection team are not provided. Neither is explanation of near-criticality event at the Portsmouth Plant in fall of 1999 which resulted in public meeting to reassure the local population held by NRC in February of 1999. According to NRC as reported in October of 1999, see Attachment VIII, with headline "NRC: Radiation not a problem at Ohio plant." According to NRC findings, the PORTS Plant does a good job with radiation control, even though NRC found inadequacies in United States Enrichment Corporation worker training procedures. NRC's separation of radiation control (from operations minus human/worker error due to lack of training) defies logic as well as history.

15... In fact, human error appears to be a common thread in nuclear

15 cont.

chain reaction accidents, according to a draft government study that examined 21 such mishaps between 1953 and 1997. Most occurred in Russian and American weapons programs. THE LEDGER INDEPENDENT, "Workers in Japan's nuclear accident unaware of dangers," 10/23/99, Attachment IX.

As reported in Attachment IX, the accident/incident/release at the Tokaimura nuclear fuel plant was a direct consequence of inadequate worker training and knowledge of the risks of the materials (pure uranium obtained from France as fuel for an experimental breeder reactor). Furthermore, reference to criticality events having "slight/inconsequential/insignificant" health and environmental consequences does not, thereby, make workers, the public, and environment immune to adverse impacts. In fact, initial Japanese government survey of the adverse consequences failed to count 20 workers who were exposed to levels of radiation beyond "safe" levels. Radioactive iodine 131 at twice the "safety limit" was determined, likewise to pose no health risk! Some workers were exposed to 50 to 100 times higher radiation levels in one event than cumulative dose considered to be safe exposure over an entire year period of time, see Attachment X.

16

Spin-doctoring is not unique to DOE, NRC, and the nuclear utility industry and its related interests. However, faced with public apprehension and mistrust, considerable deception, misinformation, and subterfuge apparently is required in order to promote a future (measured in decades rather than thousands and ten thousands of years) for the commercial nuclear power industry now blended, rather artfully, with the national interests in TVA civilian reactor production of tritium.

Ample evidence has recently been brought to the attention of DOE and investigations conducted by DOE which indicate award of merit badges to responsible parties, site contractors and oversight agencies alike, is not warranted. To the contrary, the spin-doctoring necessary to "reassure" the public, is in fact, emerging as a "common thread" likely to cause rips and tears in the very fabric of democracy! DOE most certainly has ample "cooperation" from various other state and federal agencies in deceit and information mismanagement.

As examples:

1) Lapses in air-monitoring around the Paducah Gaseous Diffusion Plant by the state environmental agency resulted in the state being able to say that it never found higher-than-normal amounts of airborne radiation, although the agency agreed in late 1996 to perform weekly monitoring, but "lapsed" for a month or two in the summer of 1999, see Attachment XI, with predictable citizen response, i.e., mistrust of state and federal agency assurances.

2) Safe drinking water consumer in proximity of Paducah, Ky. Plant site finally has his residence hooked up to the local water system. In 1988 tests of residential/private residence drinking water wells showed solvents and technetium-99 in vicinity of the Plant site. Until about 3 years ago, the family had been drinking water from a well near a hog barn after the well near his house was condemned by the health department. For the past 3 years the family had been purchasing drinking water. See Attachment XII.

Over the years, people working for the government have tested his well water. Benton said they told him they found traces of plant (site) contaminants, but not at levels that would make it unsafe to drink.

'I don't believe a thing those guys tell me,' he said.

3) Army Corp of Engineers World War II transportation depot is presently the site of River Valley Schools near Marion, Ohio. Results of an initial survey found no unusually high levels of radiation at the school campus. However, cancer rate of students and former students had sparked initial investigation. An employee of a civilian subcontractor hired by the corps to survey for radiation said reports were doctored to make it appear as if radiation levels were not unusual. See Attachment XIII.

Marion citizens concerned about the contamination aren't satisfied with yesterday's announcement.

'I'm skeptical of anything that the Army does to investigate itself, said. . . a River Valley parent.

'This is the pattern of behavior that we've seen throughout this whole investigation.'

4) Test results for DOE annual environmental reports alleged to be falsified in lawsuit. Deer shot near the Paducah, Ky. Gaseous Diffusion Plant site and 15 miles from the site show "tiny" amounts of uranium, neptunium, thorium, and strontium. Attachment XIV. Site contractors deny wrong-doing and say the plant environment is safe.

5) Deer carcasses tested at the Portsmouth Gaseous Diffusion Plant site, which has the same DOE site contractors (Bechtel Jacobs/Lockheed Martin) as Paducah, Ky show no radiation detected in deer kidneys in the past 4 years of the hunt. Loss of credibility has become somewhat of an issue at PORTS. A 1990 report notes breakdown in control of contamination with widespread eating and smoking in contaminated areas. The 1978 official report of the plant's largest release of uranium hexafluoride (canister rupture, release of 22,000 pounds creating a toxic cloud) indicates that workers were not informed of the dangers of exposure during the incident, or afterward. In fact, a worker sent to clean up that spill without protective clothing was ridiculed for asking about the dangers. See Attachment XV.

6) False alarm triggered by office joke at DOE Fernald, Oh (FEMP) superfund remedial action site cost wasted the time of eight (8) county, state, and federal agency employees and cost several thousand taxpayer dollars. Office humor apparently resulted in labelling an unwashed coffee cup as containing an anthrax sample. See Attachments XVI and XVII. If misinformation and failure to disclose information were not sufficient to cause apprehension by the public in matters nuclear--complete lack of professional conduct should get the job done!

- 17 ☐ DOE has obligation to fully address the suitability of the Yucca Mountain High Level Waste Repository site. DOE must consider long term consequences based upon best available technology and scientific knowledge. If DOE has anticipation, based upon agency experience and expertise, that Yucca Mountain will not permanently isolate high-level radioactive waste from the natural and human environment for time periods of 100 and 10,000 years, DOE has obligation to say so in Final EIS. Doing the wrong thing in nuclear waste management should be the least preferred alternative. See Attachment XVIII, Hanford's SY-101 million gallon underground storage tank provides example of agency action intended to reduce/address waste volume problem which, in retrospect, resulted in all too appropriate description of the high/low level radioactive waste disposal dilemma in general.

.. another problem caused by the solution to that problem. . .
Unfortunately, there just doesn't seem to be an end it. . .
(See Attachment XVIII.)

18... In conclusion, DOE has obligation and responsibility to render final agency decision regarding the suitability of Yucca Mountain as solution to high level radioactive waste disposal (70,000 metric tons site capacity) in final EIS: Should DOE find Yucca Mountain unsuitable, recommendations to Congress must be submitted. DOE final decision must include priorities and considerations actually used by the agency in reaching final finding. Priorities from other DOE programs, other federal agency programs, the national interests, and international policies and agreements certainly appear to have intruded on the Yucca Mountain repository siting process. Transparency and accountability in agency decision making is most urgently required, and is herein specifically requested. Priorities of DOE must address other agency-decision making "drivers" so that interested parties, concerned citizens, taxpayers, and directly affected parties can begin, at this stage of the siting process, to comprehend what is actually being decided by whom and why! If my understanding of the term, "transparency" is essentially correct, DOE as well as other federal agencies are encouraged to make decision-making "drivers" known to interested parties before, during, and/or after decision making process. DOE has obligation to identify for public comment, during comment period, which factors have been determined to by DOE to receive "top priorities status" in this process.

19 OMB Circular A-119 requires all federal agencies to use voluntary consensus standards in lieu of government-unique standards in procurement and regulatory actions, except where inconsistent with law or impractical. The standards for protection of the public and the environment otherwise required by DOE, NRC, and U.S. EPA are not being applied to Yucca Mountain. What standards to use, unique to Yucca Mountain is in dispute by NRC and U.S. EPA. DOE is apparently using "Voluntary Consensus Standards" when regulations already apply to all other DOE sites. Anticipation/determination by DOE, NRC, and/or U.S. EPA requires DOE to find the site unsuitable rather than insert new standards less protective into the process. It would seem rather obvious that DOE, NRC, U.S. EPA have apprehensions by virtue of the debate over which standards should apply. No confidence by regulatory agencies in the sites ability to perform to regulations does not inspire confidence in agency EIS draft "preferred alternative." Ref.: CERTIFICATION REQUIREMENTS, NEW GUIDANCE SHOULD ENCOURAGE TRANSPARENCY IN AGENCY DECISIONMAKING, GAO/GCD-99-170, Sept. 1999.

18 cont. OMB Circular A-119 does not apply to conformity assessment activities carried out pursuant to treaty agreements. Ref.: IBID. By treaty agreement with Russia as part of the nuclear weapons non-proliferation policy in March 1993, the U.S. agreed to purchase 500 metric tons of highly enriched uranium from dismantled Russian nuclear weapons. United States Enrichment Corporation, Inc. was privatized in July 1998. USEC (PORTS Plant at Piketon, Ohio) receives shipments of Russian HEU (downblended), processes it, and sends the LEU to five U.S. nuclear fuel fabricators to be made into nuclear reactor fuel for commercial nuclear power reactors. Bluntly stated, the nuclear power industry (now armed with military tritium producing purpose) has obvious financial interest in DOE decision-making process at Yucca Mountain. To further add to the confusion as to what priorities are being used by whom in decision-making:

DOE and Lawrence Livermore officials told us (GAO) that until continuous-monitoring equipment is installed at the three Russian blending facilities, they will not be highly confident that blending is occurring and that all of the LEU that the U.S. is purchasing is coming from blended HEU (dismantled nuclear weapons). Ref.: NUCLEAR NONPROLIFERATION, STATUS OF TRANSPARENCY MEASURES FOR U.S. PURCHASE OF RUSSIAN HIGHLY ENRICHED URANIUM, GAO/RCED-99-194, Sept. 1999.

"Transparency" as applied in GAO/RCED-99-194 refers to U.S. ability to verify that LEU purchased from Russia actually comes from dismantled nuclear weapons. Confidence by the U.S. appears to have a sliding scale of 'some confidence,' confidence, and high confidence. The high confidence category applies to activities when observed and verified directly by inspectors!

Although the nuclear weapons arsenal of the former Soviet Union is one of top priority during decision-making in the national interests, DOE must consider proliferation of nuclear weapons to other nations as well.

North Korea's development of weapons of mass destruction is posing increasing threat to the United States and its Allies, according to a congressional study.

In addition to chemical and biological weapons, there is 'significant evidence' that North Korea is continuing to develop nuclear weapons despite a commitment five years ago to remain nuclear free, . . . See Attachment XIX.

It is worth mention, with considerable irony, that U.S. efforts to improve the quality of life of residents of North Korea have included export of civilian nuclear power capabilities to North Korea which the North Korean government has put to use providing jobs for its citizens at gambling casinos. Another problem apparently has been caused by a solution.

18 cont.

In brief, DOE Yucca Mountain "solution" apparently, but not transparently, is being blended with agency and other priorities, including U.S. excess Plutonium weapons material disposition, and the role nuclear power directly and indirectly plays in the nation's security and energy interests. DOE is requested to define and clarify its priorities and their order in final Yucca Mountain draft EIS. Who are the players and what are the rules of the game? The public participation process is rendered meaningless without basic knowledge of what is actually being decided and by whom?

Respectfully submitted,

Diana I. Cahall

Diana I. Cahall (note restoration of maiden name, f.k.a. Diana Salisbury)
7019 Ashridge Arnheim Road
Sardinia, Ohio 45171

Attachments

Via the U.S. Postal Service, certified mail, article number 2-301-367-179,
return receipt requested, postage prepaid on 12/14/99.

cc: United States Environmental Protection Agency; via the U.S. Postal Service, regular mail, postage prepaid on 12/14/99.

Half-lives for representative radio nuclides in commercially generated low-level radioactive waste.

<u>Radio Nuclide</u>	<u>Symbol</u>	<u>Half-Life</u>
Americium-241	Am-241	432.2 years
Antimony-125	Sb-125	2.77 years
Barium-137m	Ba-137m	2.55 minutes
Carbon-14	C-14	5730 years
Cerium-144	Ce-144	284.3 days
Cesium-134	Cs-134	2.06 years
Cesium-137	Cs-137	30.17 years
Chromium-51	Cr-51	27.7 days
Cobalt-58	Co-58	70.8 days
Cobalt-60	Co-60	5.27 years
Europium-152	Eu-152	13.6 years
Europium-154	Eu-154	8.8 years
Europium-155	Eu-155	4.96 years
Hydrogen-3	H-3	12.3 years
Iron-59	Fe-59	44.63 days
Manganese-54	Mn-54	312.7 days
Niobium-95	Nb-95	35.06 days
Promethium-147	Pm-147	2.62 days
Praseodymium-144	Pr-144	17.28 minutes
Plutonium-238	Pu-238	87.75 years
Plutonium-239	Pu-239	24,130 years
Radium-226	Ra-226	1,600 years
Rhodium-106	Rh-106	299 seconds
Ruthenium-106	Ru-106	368.2 days
Samarium-151	Sm-151	90 years
Strontium-90	Sr-90	28.6 years
Technetium-99	Tc-99	213,000 years
Tellurium-125m	Te-125m	58 days
Thorium-232	Th-232	14 billion years
Uranium-235	U-235	7 million years
Uranium-238	U-238	45 million years
Yttrium-90	Y-90	61 hours
Zinc-65	Zn-65	244 days
Zirconium-95	Zr-95	64 days

From U.S. Department of Energy, Integrated Data Base for 1988: Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics, September, 1988.

II.

EIS000475

Studies backed by drug firms less critical

BY DON BABWIN
The Associated Press

CHICAGO — Studies on the cost-effectiveness of drugs are far more likely to report favorable findings if they are sponsored by the drug companies themselves rather than independent groups, researchers found.

Their study — funded by a pharmaceutical company — appears to confirm that doctors are less critical about a drug's safety and effectiveness when they have ties to the manufacturer.

Last year, the conflict-of-interest issue made headlines when a report found that the vast majority of doctors who defended the safety of calcium-channel blockers had a financial relationship with manufacturers of the blood pressure pills.

In the current study, published in today's *Journal of the American Medical Association*, the researchers looked at 44 studies on the cost-effectiveness of cancer drugs. Twenty of the studies were funded by pharmaceutical companies and 24 by non-profit organizations.

Those sponsored by nonprofit groups reached unfavorable conclusions 38 percent of the time, compared with just 5 percent for studies sponsored by pharmaceutical companies. Also, researchers in company-backed studies were slightly more likely to overstate the cost-effectiveness.

Some researchers receive funding directly from pharmaceutical companies. Some get funding in the form of honoraria or travel expenses. Some hold stock in drug companies and profit from increased drug sales.

Dr. Charles Bennett, the lead author and a professor at Northwestern Medical School, said that in addition to unconscious bias, there could be other explanations for the findings.

For example, pharmaceutical companies are given early looks at studies. That enables them to abandon studies that appear to be unfavorable and focus on those they think are going to be positive, Dr. Bennett said.

Dr. Bennett said the findings should not be seen as a major criticism of pharmaceutical companies.

"Our study was sponsored by a pharmaceutical company," he said, Amgen Inc. He also said his paper analyzed studies sponsored by Amgen, which fared no better than other sponsored studies.

Chinese official blasts U.S. missile shield plan

BY JOHN POMFRET
The Washington Post

BEIJING — China's top arms control official assailed the United States Wednesday for its campaign to develop a protective shield against ballistic nuclear missiles. He warned that such a program could lead to a nuclear arms race and dangerously alter the strategic balance in Asia and the rest of the world.

Sha Zukang, the Foreign Ministry's arms control director, also lambasted the Senate for its failure to ratify the Comprehensive Test Ban Treaty last month, arguing that such an act could make countries like China reluctant to enter into arms control agreements with the United States.

"Because I'm a negotiator I ask myself, 'What should I do?'" Mr. Sha said in a rare, wide-ranging interview. "Should we follow the same practice? We know the United States is a superpower, but that does not give you super rights."

Mr. Sha's statements reflect China's deep unease with American strategic thinking, specifically the push to amend or even abrogate the 1972 Anti-Ballistic Missile Treaty. Underlying Mr. Sha's comments is a perception, shared by some European officials, that Washington is capitalizing on its status as the most powerful country to lock in a strategic advantage that would make it immune to intimidation.

Chinese rely on missiles

The U.S. plan to create a shield against missiles would affect China specifically because it would trump Beijing's single strategic ace. China's armed forces are still decades behind the American military. Its missiles, however, are top-notch and are the part of its arsenal that give it any hope of becoming a world, or even regional, military power. "They are missile savants," said one Western military expert.

But creating an American national missile defense system would deny China the ability to threaten the United

Pentagon alarmed by Israeli weapons sales with China

The New York Times

WASHINGTON — Israel's sale of a sophisticated, \$250 million airborne radar system to China has raised serious concerns at the Pentagon. The Clinton administration has quietly urged Israeli officials to cancel delivery of additional radar planes and to curb other weapons sales to the Chinese military, administration and defense officials said Wednesday.

Israel has long had a close, secretive military relationship with China that, according to arms experts, has resulted in billions of dollars of weapons sales in recent years and raised concerns in the United States. But senior Pentagon officials fear that the advanced radar system, in particular, will enhance China's ability to extend its military power beyond its borders and threaten Taiwan.

"It is a significant capability," a senior official said, speaking on condition of anonymity, "and it will improve significantly China's ability to conduct operations in and around

the Taiwan Strait. That obviously is our major security interest in the region."

Workers at Elta, a subsidiary of Israel Aircraft Industries, recently mounted the radar system on a Russian-made cargo plane destined for China's Air Force, completing the first part of a complex deal that was several years in the making.

Elta designed the system, known as the Phalcon, for the Israeli Air Force, using a Boeing 707 as a platform. China is reportedly interested in buying four to eight more of the systems.

The Israeli government has assured administration officials that the sale does not involve U.S. technology, although a Pentagon official said that, given the amount of arms the United States shares with Israel, it was difficult to separate U.S. military technology from Israel's own.

Administration officials have repeatedly raised the issue with the Israelis, as Defense Secretary William Cohen did on his trip to Israel last month, the officials said.

ed States with its nuclear warheads. That would result in a China that feels trapped and powerless to pursue its interests, non-American Western diplomats say.

"Any amendment, or abolishing of the treaty, will lead to disastrous consequences," Mr. Sha warned. "This will bring a halt to nuclear disarmament now between the Russians and Americans, and in the future will halt multilateral disarmament as well."

Russia's viewpoint

Russia has already protested the American plan to modify the ABM treaty. On Nov. 3, Russia announced

that it had tested a short-range interceptor rocket for the Moscow anti-ballistic missile system in what appeared to be a blunt warning about its own plans for an expanded ABM system. Western diplomats predict that an enhanced American missile shield will result in even closer security ties between Moscow and Beijing. Russia already sells China about \$1 billion of weapons a year.

Some diplomats also warn that a tough line from Washington on missile defense could prompt China to relax its new controls on nuclear proliferation and allow Chinese companies to resume selling nuclear weapons-related technology.

IV

The Ledger-Independent, Maysville, Ky., Wednesday, October 27, 1999, 7A

Survey finds Chinese most willing to pay bribes abroad

By HARRY DUNPHY

Associated Press

WASHINGTON - China is seen as the country whose exporters are most willing to pay bribes in business deals abroad, and Scandinavians are least likely to give or receive them, according to two surveys released Tuesday. The United States ranked in the middle.

The surveys, compiled by Transparency International, a private organization with chapters in 77 countries, focused attention for the first time not only on governments whose officials accept money but also nationalities perceived as those most likely to pay bribes and kickbacks to win contracts.

"Our two indexes capture views on the two sides of the corruption coin," said Frank Vogl, vice chairman of the organization. "They highlight the corruption conspiracy, where bribe-supplying companies come together with bribe-taking officials to defraud people in emerging-market countries."

The surveys come at a time of rising awareness of corruption's cost to both rich and poor nations. The World Bank and the International Monetary Fund long avoided the issue but now, seeing it as a major obstacle to economic progress, are waging aggressive campaigns for clean government.

Rankings in the Corrupt Perceptions Index, which for five years has cataloged the most corruption-ridden governments; and the new Bribe Payers Index, a look at where the most willing bribers operate from, are based on perceptions as measured in polls by Gallup International.

In the Bribe Payers Index, Vogl said, countries rather than private companies were ranked because there was no way to examine 60,000 multinational companies and their 500,000 foreign affiliates.

He said, however, "There should be no doubt that the BPI shows many firms in many leading industrial countries are seen to be using bribes in emerging-market countries."

Almost 800 senior business executives in 14 such countries were asked whose companies among the world's 19 leading exporting nations were the most likely to offer bribes.

Sweden, the only Scandinavian country among the 19 leading exporters, got the best score, 8.3 of a possible 10, meaning very little perceived corruption. Australia and Canada tied for second, while Taiwan, South Korea and China, including Hong Kong, brought up the rear.

"Most disappointing of all," Vogl said, is that the United States and other wealthy industrialized nations "did not fare too well."

The United States and Germany tied at No. 9, trailed by France, Japan and Italy.

The Corrupt Perceptions Index, a compilation of polls covering degrees of government corruption, was topped again by Scandinavia, with Denmark recording a perfect corruption-free 10.

It was followed by Finland, New Zealand, Sweden, Canada and Iceland, the same lineup as last year.

At the bottom of the 99-nation list were Azerbaijan, Indonesia, Nigeria and Cameroon.

Firm buying up Russian uranium wants subsidy

The Associated Press

WASHINGTON — The company that buys up uranium from Russian warheads to keep it off the world market is seeking a subsidy from the U.S. government to make up for its estimated \$200 million in losses, threatening to quit the work if the money doesn't come through.

The U.S. Enrichment Corp. (USEC) must decide by Dec. 1 whether to continue the "swords to plowshares" effort it began under a 1993 contract with the U.S. government. If it opts out, USEC would stop the work at the end of next year.

USEC — created initially to run the nation's uranium enrichment plants — was established

with public funds, but it uses its own money, and that of its investors, to buy the uranium from Russia that it then sells to nuclear power plants.

But it is locked into a contract that requires it to pay Russia more for the uranium than it can get from electricity plants seeking nuclear fuel.

Energy Secretary Bill Richardson's chief of staff, Gary Falle, declined to comment on details of negotiations but said the administration was determined that the end result include a promise to keep workers on the job at the Portsmouth Gaseous Diffusion Plant in Ohio and Paducah, Ky., Gaseous Diffusion Plant.

EIS000475

Enrichment

11/17/99 - A-12

Commercial reactor to make bomb material

BY DUNCAN MANSFIELD
The Associated Press

KNOXVILLE, Tenn. — The Tennessee Valley Authority approved a plan Wednesday to produce nuclear weapons material in a commercial reactor for the first time in U.S. history, breaching a longstanding wall between civilian and military nuclear power.

The TVA board voted 3-0 to allow the Watts Bar Nuclear Plant near Spring City, 55 miles southwest of Knoxville, to be used to produce tritium as early as 2003, while continuing to make electricity for TVA.

The agreement between TVA and the Department of Energy (DOE) angered peace activists, who said using a civilian reactor to make tritium runs counter to U.S. efforts to get other countries to reduce nuclear weapons.

"They're watching what we do, not listening to what we say," said Ralph Hutchison of the Oak Ridge Environmental Peace Alliance.

Although the U.S. government has urged other countries to avoid such dual military-civilian use of their nuclear reactors, Russia and Canada do so, said Energy Department spokesman Matthew Donoghue.

TVA officials pointed to a 1998 interagency report to Congress that concluded no international laws or agreements would prohibit the production of tritium, a hydrogen isotope that enhances the explosive power of nuclear warheads.

The report also concluded that "it was even more manageable as a result of TVA doing it because we are a federally owned facility," said TVA Vice President Jack Bailey.

Last year, the House approved legislation that would have blocked the use of a commercial reactor to make tritium, but the measure failed in the Senate.

TVA, the nation's largest public power producer, was picked by the DOE a year ago to be the government's new source for tritium and had worked on the contract since.

The DOE is expected to sign the agreement in the next few weeks.

U.S. demands less exposure to beryllium

BY MICHELLE MITTELSTADT
The Associated Press

WASHINGTON — The Energy Department on Wednesday revised a half-century-old standard for nuclear workers' exposure to beryllium — which can cause chronic lung disease — and directed its contractors to screen for early detection of the illness.

The government estimates 1,634 workers at 14 facilities in the nuclear weapons complex may be exposed to beryllium, a chemical element used as a strengthening alloy in atomic weapons — 616 of them at the Y-12 plant in Oak Ridge, Tenn. and 300 at the Pantex plant in Amarillo, Texas.

Other top sites for potential worker exposure, according to DOE estimates: Rocky Flats in Colorado, with 228; Los Alamos National Laboratory in New Mexico, 200; and the Mound plant near Dayton, Ohio, 69.

A medical screening now under way of current and former nuclear workers has turned up 146 cases of chronic beryllium disease, said Rick Jones, director of DOE's Office of Worker Protection Programs and Hazards Management.

"We are getting chronic beryllium disease in our work force," Mr. Jones told reporters.

The illness, which results from inhaling particles of the metal, is a frequently disabling, sometimes fatal disease.

Acknowledging for the first time that thousands of workers were made sick, the government in July announced a plan to compensate many of them for medical care and lost wages. That plan requires congressional approval.

The new Energy Department rules require contractors who operate DOE's plants to put in place stricter controls to minimize beryllium exposure and assist in disease detection.

Renewed funding uses tax money

Gannett News Service

WASHINGTON — Congress has left the future of the nation's toxic waste program in doubt while sticking taxpayers with a big chunk of the bill to clean up the poisonous mess.

Before lawmakers left town last month, they passed a \$390 billion spending bill that includes \$1.4 billion for cleanup of the nation's 1,396 Superfund toxic waste sites. For the first time, that funding included general revenue money — \$700 million in taxpayers' funds.

Superfund trust is running low

"The cleanup ought to be paid for by the polluters, not the public," said Ed Hopkins, a lobbyist for the Sierra Club.

In the past, cleanup has been paid for by a trust fund created by imposing taxes on oil companies, chemical companies and other industries that have contributed to the toxic waste problem. But Congress has not renewed those taxes since they expired in 1995, and the trust fund is running out of money.

There is about \$1.5 billion left — enough to last through fiscal 2001, the Environmental Protection Agency officials said.

By spending general revenue on it's not impossible.

Superfund, Congress prevented the trust fund from being depleted as quickly, buying themselves time to try to pass legislation to overhaul the cleanup process without shutting down the program.

But many lawmakers, business leaders and environmentalists are skeptical that Congress will accomplish much when it reconvenes.

"Bottom line — the odds are for continued inaction next year," said Sen. Joseph Lieberman, D-Conn., who is on the Senate Environment and Public Works Committee. "It's still a long shot that Congress will adopt comprehensive Superfund reform, but it's not impossible."

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EIS000475

Ohio man recognized for NRC efforts

Fireworks and heat have been recent symbols in the country. Most recently these symbols have been apparent in the celebrations surrounding the Fourth of July.

Fireworks are always something to look forward to in the evening activities of every town and city.

Heat has been the weather description for almost every town and city.

However, there is another category which can be described by these two words. The category is best described as a department of government known as the Department of Energy. It would be easy to lump everyone working in that important segment of government into the much publicized Department of Energy. However, the National Regulatory Commission is a very important part of the national energy program and is not under the jurisdiction of the Department of Energy. Their oversight comes from the United States Congress (The Department of Energy is part of the Administration).

The NRC Meritorious Service Award was recently awarded to a former Ohio resident, John M. Jacobson, resident inspector, Paducah (Ky.) Site Office, Region 1. His work takes him into the Waverly-Piketon area to oversee their work. The domestic use of energy is his field. The nuclear weapon systems which have been in recent headlines are entirely separate from his work. John Jacobson came to Washington to receive this award with his family including his father-in-law, the well known Green County resident Ralph Stegner. The following is the wording of his award.

"In recognition of his exceptional contributions in identification of safety issues and his strong dedication to the safety goals of the NRC. Mr. Jacobson's outstanding daily performance as a resident inspector consistently exceeds all normal expectations. His actions have provided significant benefits to the Paducah Gaseous Diffusion Plant inspection team and the Region III fuel cycle inspection program ... Mr. Jacobson truly exemplifies the character, integrity, and work ethic that are a model for other inspectors. Mr. Jacobson has been a reliable, effective and highly valued team player. His excellence is evident in all his efforts."

Yes, indeed! How proud we central Ohioans are of this positive recognition in the current fireworks and heat of the energy world!



**Joyce
Brown**

NRC: Radiation not a problem at Ohio plant

BY ANDREW WELSH-HUGGINS

The Associated Press

PIKETON, Ohio — A southern Ohio uranium enrichment plant does a good job with radiation control but could improve worker training, regulators reported Thursday.

The Nuclear Regulatory Commission report focused on current conditions at the Portsmouth Gaseous Diffusion Plant in Piketon, about 80 miles south of Columbus. It did not cover concerns that some workers might have been exposed to high levels of radiation in the past.

The NRC has full-time inspectors at the plant but conducted a special inspection last month, and separately the Energy Department is investigating the plant's history.

The plant, which enriches uranium for use in nuclear fuel, "has a good radiological control program, and good control of releases and an environmental monitoring program," said Pat Hiland, NRC inspection leader.

The NRC took issue with some worker training by the United States Enrichment Corp., which operates the plant. The inspection said the training was too general.

Some workers interviewed by inspectors also had trouble remembering things they'd been taught in training, Hiland said.

"You may leave the impression to the workforce that they don't have to take certain precautions," Hiland said. "Clearly it's in everyone's interest to engage the workers, to explain what the radiological risks are, and actually to allow the workers to participate in their own radiological protection activities."

Morris Brown, the plant's general manager, thanked the NRC for its findings and said the plant would improve worker training.

Susan Thompson, 45, of nearby Rardon, asked NRC officials about the lingering effect of plutonium embedded in systems from work done from the 1950s into the '70s.

She said her husband, Owen Thompson, a chemical operator at the plant from 1975 to 1985, died of brain cancer last year at age 46.

Workers in Japan's nuclear accident unaware

By H. JOSEF HEBERT
Associated Press

WASHINGTON - Lacking the training given at U.S. nuclear facilities, three workers who caused Japan's worst nuclear accident were described Friday as blue collar employees with little scientific background or understanding of the potential dangers they faced.

In fact, human error appears to be a common thread in nuclear chain reaction accidents, according to a draft government study that examined 21 such mishaps between 1953 and 1997. Most occurred in Russian and American weapons programs.

"These people were unaware of the hazard," said Thomas McLaughlin, an expert in chain reaction accidents was among three American scientists who went to Japan to review the Sept. 30 fuel processing plant mishap.

Energy Secretary Bill Richardson, who commissioned the study, said the information gained in Japan will be invaluable as the Energy Department begins a comprehensive review of its nuclear facilities, especially regarding safety procedures and training.

The Japanese accident resulted in an uncontrolled nuclear chain reaction that severely injured the three workers at the Tokaimura nuclear fuel plant, exposed at least 69 people to significant radiation and forced tens of thousands indoors or to evacuation centers.

The reaction was not brought under control for 17 hours, but the U.S. officials said Friday that radiation levels away from the plant building remained extremely small - significantly lower than originally feared. The levels "were barely detectable, ... (well) below health-threatening," McLaughlin said.

Officials of JCO Co., the plant's operators, have acknowledged that the workers improperly handled 35 pounds of highly enriched uranium, which caused the nuclear material to reach criticality.

The three U.S. nuclear experts provided new details Friday on what occurred.

Frank McCoy, an expert on nuclear facility management and head of the Energy Department team, said the workers used equipment not designed for what they were trying to do and were inadequately trained to handle nuclear material.

"They were generally blue collar workers," with little scientific knowledge that would have told them that improper handling of the uranium powder could set off an uncontrolled nuclear chain reaction, McLaughlin said.

The U.S. experts said the Japanese workers were trying to dissolve uranium powder into a liquid. They dissolved batches of it in buckets, about 8 pounds at a time. Then, using 5-liter beakers, they poured the solution into a tall caldron, unaware that changing the geometry and volume of the containers so often and concentrating the fissionable material was highly dangerous.

They poured into the caldron six beakers of the unusually

pure uranium, obtained from France as fuel for an experimental breeder reactor. While pouring a seventh beaker, the solution went critical, beginning a chain reaction and setting off a blue flash. A burst of radiation was released that severely injured the workers and sent radiation shooting outside the building, the experts said.

The workers appeared unaware of the dangers of a nuclear chain reaction and lacked a "fundamental understanding of what they were protecting against," said McCoy, deputy manager of the department's Savannah River nuclear facility in South Carolina.

But McLaughlin said the Japanese accident was not unlike some of the 21 nuclear criticality incidents that have occurred, predominantly in Russia and in the United States, dating back to 1953.

The last major such accident, in 1978 at a federal nuclear weapons facility in Idaho, killed two people. Russia reported a minor criticality incident in 1997. Most of the 21 incidents - 13 in Russia, seven in the United States and one in Great

Britain - occurred in the late 1950s and early 1960s.

McLaughlin heads a task force at the Los Alamos National Laboratory that for several years has examined these accidents to find any common threads. A final report has been delayed because the group wanted to include the Japan accident, he said.

Similarities already are apparent, he said.

A report draft said 20 of the 21 accidents, as well as the one in Japan, occurred when the fissionable material was in liquid form; many of the accidents involved human error; none was attributed solely to equipment failure; many occurred "during nonroutine operations"; and none resulted in "measurable radiation consequences ... beyond the facility to either people or the environment."

The task force list did not include a criticality incident at a private nuclear fuel processing plant in Rhode Island in 1964, in which a worker was killed.

of dangers

10/16/99 A-TO

New figures released for Japanese nuclear accident

The Associated Press

TOKYO — Officials undercounted the number of people exposed to radiation in Japan's worst-ever nuclear accident, with the new tally totaling 69, the government said Friday.

The mistake — which overlooked 20 exposed people — only reinforces the image of a nuclear industry plagued by slipshod safety measures that has wrecked public trust since the Sept. 30 accident at a uranium-processing facility.

A report submitted Friday by the Nuclear Safety Commission said the new exposures were revealed when investigators belatedly checked badges the workers wore to monitor radiation levels.

Also on Friday, JCO Co., the company that runs the troubled facility, said that a small amount of radiation was still leaking from the plant, although it does not pose a health risk.

Last week, JCO said that a ventilator was still spewing ra-

dioactive iodine 131 at about twice the safety limit.

The company sealed the opening and turned off the exhaust fan, but the leak was continuing as of Friday, said Science and Technology Agency spokesman Ken Maruoka.

The accident, which set off an uncontrolled atomic reaction, raised serious doubts about the safety of Japan's nuclear power policy.

Friday's report by the commission appointed by the prime minister only added to the public's uneasiness. Japanese media reports questioned whether even the new tally of injured might be too low.

Other workers were exposed to radiation levels 50 to 100 times higher than what is considered safe to receive over the course of a year, Friday's report found.

Labor Minister Takamori Makino promised on Friday to beef up safety requirements at nuclear facilities.

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Circulation

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State found lapse in air-monitoring program XI.

EIS000475

Associated Press

LOUISVILLE, Ky. - For several weeks this summer, the state failed to measure the air around Paducah's uranium-enrichment plant for possible radioactive material, a lapse that troubles some environmentalists.

After a lapse of about one to two months, the checks resumed in August at the direction of a task force created by Gov. Paul Patton to investigate allegations of radiation contamination in and around the plant.

The state says it has never found higher-than-normal amounts of airborne radiation at the seven sites outside the plant's grounds it agreed in late 1996 to check weekly. The state compares the radioactivity of particles trapped at those sites with that found at another location a few miles away.

Mark Donham, co-chairman of a citizens' advisory board that is watching cleanup of environmental problems caused by the plant, said he distrusts state and federal assurances that air around the plant is safe.

Donham said low levels of technetium, a man-made product that is radioactive, have been found in vegetables in a few gardens in the vicinity.

2B. The Tribune-Journal, Maysville, Ky., Wednesday, September 1, 1998

The Ledger-Independent, Maysville, Ky., Monday, October 25, 1999

Man living near plant finally gets city water hookup

Associated Press

p. 3-B

PADUCAH, Ky. — George Benton finally got results in his ~~three-year campaign to have his~~ home hooked up to the local water system.

The ground water that feeds his well has been contaminated, he said, possibly by discharges from the Paducah Gaseous Diffusion Plant.

But on Friday, technicians connected city water to Benton's home, a day after he complained to the Site Specific Advisory Board, a citizen panel that makes recommendations about the diffusion plant's cleanup. The board agreed that Benton should get water immediately.

"Hopefully, I stirred up enough stink," Benton said. "Now we'll be able to take a bath and wash out clothes and we won't be afraid to get in it any more. It's a pretty good feeling."

The U.S. Department of Energy began running waterlines to homes around the plant after discoveries in 1988 that solvents and radioactive technetium-99 released from the plant were showing up in residential wells. The government insists the plant has not fouled Benton's wells.

Under the department's policy, anyone within a designated area got free water, even if the well water tested OK. Recently the department said everyone on Bethel Church Road had been supplied with free city water. But Benton knew better.

To qualify for free city water

under the Energy Department's policy, recipients must agree to cap any existing wells and never drill other wells on the property. That has worked for the 100 or so customers whom the Energy Department is paying to serve.

But according to the department and the West McCracken Water District, Benton's landlord, Elliott Rafferty, was reluctant to give up the right to drill a well anywhere else on his property, which extended far beyond the area where the underground water was tainted.

The department's policy appeared to have been waived when technicians hooked up the water.

Benton's frustration had grown over the years as city waterlines came within sight of the property line, then within 50 feet of his home about a month ago.

He and his wife, Joyce, say they have unexplained illnesses and said their daughter, Lesley Benton Rushing, who also lives on the farm, suffered miscarriages in 1997 and 1998.

Bill Tanner, West McCracken Water superintendent, thinks the recent controversy about the diffusion plant's pollution had distracted the Energy Department from giving the go-ahead to extend water service to

Benton's home.

Benton said the health department condemned the drinking-water well near his house years ago and he has been drawing water from another well near a hog barn. "But they tell me it's just as bad," Benton said.

Benton, who has lived on the farm for about 12 years, said he and his family drank the water until about three years ago. Then he started buying water at Wal-Mart.

Over the years, people working for the government have tested his well water. Benton said they told him they found traces of plant contaminants, but not at levels that would make it unsafe to drink.

"I don't believe a thing those guys tell me," he said.

But Steve Wyatt, an Energy Department spokesman, said tests on Benton's well had shown "no detectable levels of contaminants." The testing supervisor with the McCracken County Health Department could not be reached for comment.

Wednesday, September 8, 1999

The Columbus Dispatch

XIII

Radiation subject of 2 investigations

By Randall Edwards

Dispatch Environment Reporter

The Army Criminal Investigation Command will look into allegations of a cover-up by a subcontractor involved in a radiation survey at River Valley Schools near Marion, Ohio.

At the same time, the Ohio Department of Health will hire a consultant to conduct an independent evaluation of the radiation work on the campus, state officials announced yesterday.

The Army agency will investigate possible criminal charges, while the Health Department will try to determine whether the results of the survey — which found no unusual radiation levels on the campus — are reliable.

"Our first concern is to know whether we've got compromised results," said Ruth Vandergrift, a spokeswoman for the Health Department.

Vandergrift said the Army Corps of Engineers will pay for the independent review but will not be involved in selecting the consultant.

The Health Department has requested the corps' records, and Vandergrift said she hopes to begin conducting interviews in October.

The investigations were triggered by an e-mail message that was sent to the Ohio Environmental Protection Agency.

The EPA forwarded the message to the Health Department, which has authority over radiation investigations.

In the message, Jed Ball of Ulla, N.C., told state officials that supervisors told him that he would not find any radiation on the grounds of River Valley high school and middle school east of Marion.

Ball, who worked for a civilian subcontractor hired by the corps to survey for radiation, also said reports were doctored to make it appear as though there were no unusual radiation levels on the campus.

The corps and other state and federal agen-

cies are investigating environmental contamination on the campus. The schools were built atop a World War II Army transportation depot, and the investigation has revealed that a portion of the grounds was used as a dump for spent solvents and other chemical wastes.

Ball said yesterday that an Army investigator visited him Friday.

"He said this situation was being reviewed by people at the highest levels of the Army," Ball said.

Ball said he spent four weeks at the site as a temporary employee of Safety and Ecology Corp. Ball said someone for that company told him the surveyors were "window dressing."

No one from the company returned phone calls yesterday.

Safety and Ecology Corp., a well-known radiation survey company, was hired because of its expertise in finding radiation contamination, said Jeffrey J. LeBlanc, a hydrogeologist with Montgomery Watson, the primary contractor investigating the campus.

No one from Montgomery Watson discouraged survey technicians from reporting radiation, LeBlanc said.

"Actually, we hired them because we thought we could find something," LeBlanc said.

An earlier survey by the Health Department had uncovered a small, dime-sized disc painted with radium buried in the front lawn of the school.

The disc, which was probably used as some sort of military marker, is the only source of radiation found on the site.

Marion citizens concerned about the contamination aren't satisfied with yesterday's announcement.

"I'm skeptical of anything that the Army does to investigate itself," said Mike Griffith, a River Valley parent.

"This is the pattern of behavior that we've seen throughout this whole investigation."

Cile Ledger Independent

9/30/99

4-A

ate/Local

Traces of radioactive elements found in deer

Associated Press

PADUCAH, Ky - Deer shot near the Paducah Gaseous Diffusion and in Ballard County, 15 miles away, show traces of radioactive elements, some natural and some man-made.

Analyses reported by Bechtel Jacobs, lead environmental contractor for the Department of Energy, reveal tiny amounts of uranium, neptunium, thorium and strontium in some of 10 deer shot in the two hunting areas.

The results compared deer killed during the summers of 1998 and 1999 in the West Kentucky Wildlife Management Area around the plant and in the Ballard County Wildlife Management Area near Barlow.

The results were reported Wednesday in a copyright story in The Paducah Sun.

The health and safety of plant neighbors has been questioned by plaintiffs in two federal lawsuits alleging the plant has contaminated workers and the public.

Dr. Thomas Cochran, a plaintiff in a federal false-claims suit, told a congressional hearing in Washington last week that his organization has evidence showing contamination at and near the plant is far worse than reported.

Cochran is director of nuclear programs for the National Resources Defense Council, a

400,000-member citizens' environmental group.

The suit alleges that Lockheed Martin falsified test results in annual environmental reports.

Lockheed Martin officials have denied that and said the plant environment is safe.

SATURDAY, OCTOBER 30, 1999-C7-

DOE official and lawmakers to meet with Piketon workers

BY KATHERINE RIZZO

The Associated Press

WASHINGTON — The Department of Energy's top safety official toured a uranium plant in southern Ohio on Friday and prepared to meet with workers who fear they were exposed to more radiation and dangerous chemicals than their bosses ever revealed.

Meanwhile, two Ohio lawmakers separately pressed Clinton administration officials on behalf of employees of the complex in Piketon, Ohio, built to process fuel for nuclear weapons.

Rep. Ted Strickland, D-Lucasville, whose district includes Piketon, met with President Clinton's top budget official and discussed compensating Ohio's exposed workers and not just those who worked at a similar facility in Kentucky.

And Sen. Mike DeWine, R-Ohio, wrote Energy Secretary Bill Richardson on Friday, complaining that documents about the Portsmouth Gaseous Diffusion Plant were archived at a sister plant in Tennessee rather than in Piketon, where the workers could more easily view them.

Mr. Strickland, Mr. DeWine and Sen. George Voinovich, R-Ohio, also were scheduled to join the workers today at a meeting called by Dr. David Michaels, assistant secretary of energy for safety, health and environment.

Dr. Michaels said his goal was to gather information about the employees' health problems and their experiences with the state's workers compensation system.

Mr. Strickland said he urged White House budget director Jack Lew to allow Ohio workers to benefit from whatever compensation program the government sets up for those exposed to plutonium contamination.

The congressman said afterward that he was infuriated by Mr. Lew's refusal to make such a promise.

DOE has announced its intention to compensate workers exposed to plutonium at the Paducah Gaseous Diffusion Plant in Kentucky, but delib-

Deer carcasses tested for radiation contamination

The Associated Press

PIKETON, Ohio — Hunters who bag a deer near a southern Ohio uranium enrichment plant make an extra stop before heading home: They must have their animal tested for possible radiation exposure.

The U.S. Department of Energy requires the on-the-spot test for deer taken by hunters who participate in the Saturday-only bow hunt on federal land around the Portsmouth Gaseous Diffusion Plant in October and November.

The Energy Department also requires laboratory testing on a kidney from each animal. No radiation has been detected in the hunt's four years.

Many hunters are repeat customers, and for them, the testing is "just considered procedure," said Sandy Childers, a spokeswoman for Bechtel Jacobs, the government contractor involved in an environmental cleanup in parts of the plant, 80 miles south of Columbus.

"They understand because of

where we're located, the type of business we're in, something has to be done. They don't seem to be concerned," she said.

The hunt was developed after area residents and Portsmouth employees complained about an increasing number of car-deer accidents.

The hunt is limited to bows. The Department of Energy won't allow guns near the plant, Ms. Childers said.

The hunt takes place on 2,500 acres of federal land owned by the Department of Energy. This land lies outside the 1,200-acre complex of buildings where uranium is enriched for use in nuclear fuel. No hunting is allowed inside this fenced-in, secure area.

Bechtel Jacobs lets in a maximum of 100 hunters each Saturday, and assigns them positions.

Hunters can gut and dress their kills in the field, but must bring the deer and at least one kidney to a check-in point on the plant's north side for testing.

erately declared it to be a pilot program so that similarly exposed workers from Piketon or Oak Ridge, Tenn., could not claim eligibility.

Mr. DeWine's letter about access to the official documentation of what happened at Piketon came as the *Columbus Dispatch* published information it found during a monthlong examination of reports on file at Oak Ridge, Piketon and in Washington.

The documents show that crucial workplace-safety information was withheld from employees by plant managers, the newspaper reported.

Among the findings cited:

► A 1990 report noting a breakdown in control of contamination and "widespread evidence of eating, drinking and smoking in contaminated areas."

► The official report of a 1978 spill, the largest in the plant's history, described releases of uranium hexafluoride as routine.

The accident sent nearly 22,000 pounds of uranium hexafluoride spewing from a ruptured canister, creating a toxic cloud. A janitor who ran into that cloud without any protective gear described months of hacking up clear rubbery substances.

"They took me to the hospital and said there was nothing wrong with me. But for a year I coughed and coughed," Stanley McNelly told the *Dispatch*.

Another worker told of being sent to clean up that spill without any protective clothing and of being ridiculed for asking about the dangers of exposure.

No one's laughing at Fernald

'Anthrax' prank triggered costly emergency actions

BY TIM BONFIELD

The Cincinnati Enquirer

Memo to office pranksters: Don't ever describe the goo at the bottom of an unwashed coffee cup as anthrax.

An apparent office joke at the former Fernald uranium processing plant near Ross rapidly escalated Monday into a full-scale emergency response to a possible bioterrorism incident. The false alarm involved no less than eight county, state and federal agencies and wasted several thousand taxpayer dollars.

"Hey, jokesters, I want you to know this isn't something to fool around with," said Tim In-

gram, Hamilton County health commissioner. "Any time we get a call like this, it has to be taken seriously. But when it's a prank, it means that what I came in to do today isn't getting done."

Starting about 7 a.m. Monday, a small army of emergency personnel scrambled into action because a Fernald worker found a coffee cup at an abandoned desk with a note attached saying "Do not touch. Anthrax sample."

By 8:30 a.m. the incident had triggered responses from a Fernald internal security team, the U.S. Environmental Protection Agency, the Centers for Disease Control and Prevention, the FBI, the Ohio Department of Health, the Hamilton and Butler County health departments, the Hamilton Coun-

ty sheriff, and the Crosby Township Fire Department.

By 4 p.m., officials confirmed that a fungus growing in the cup did not contain any anthrax spores. Instead, an investigation was on to identify the prankster.

"After everyone assembled at their rally points, the situation was spelled out," said Fernald spokesman Gary Stegner. "People were asked, 'If this is a joke, let us know.' No one did. So we had to treat it as a potential terrorist threat."

Should the prankster get caught, he or she has a good chance of getting fired. With no sign of serious harmful intent, federal charges are unlikely. But local officials could pursue state charges of inducing panic — a misdemeanor that carries a maximum penalty of six months in jail and a \$1,000 fine.

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TRISTATE

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Fernald back to work after anthrax scare

Work resumed Tuesday at the Fernald environmental cleanup project after an office prank Monday forced an evacuation and emergency response to a possible bioterrorism incident.

The FBI continues to investigate in hopes of catching the prankster, said spokesman Gary Stegner.

At least eight federal, state and county agencies scrambled Monday after an employee found a note claiming, falsely, that fungus growing in an unwashed coffee cup was a sample of deadly anthrax.

More than 100 employees were evacuated and the coffee cup was flown via helicopter to Columbus for special testing after it was collected by a team equipped in full protection gear.

No employee has admitted to the prank. The FBI has the note and is checking for fingerprints, Mr. Stegner said.

The Cincinnati Enquirer, 9/27/99, A-4.

Nuclear waste threatens overflow

Radioactive 'souffle' rising in Wash. tank

BY MATTHEW L. WALD
The New York Times

WASHINGTON — A giant radioactive souffle is rising toward the top of a million-gallon tank of nuclear waste buried in the desert near Richland, Wash.

Whipped up unexpectedly by a pump that was supposed to dissipate pockets of hydrogen gas, the waste has smothered one tube for vapor sampling, threatens other instruments and could eventually overflow, according to officials of the Department of Energy and the contractor in charge of the tank, Lockheed Martin Hanford

Corp. They are rushing to pump some of the waste into another tank, possibly within a month.

In May, workers stopped the growth, at least temporarily, by lancing the crust with high-pressure water jets, but the hole they made is beginning to close.

"I don't make any claims about this tank," said Donald Oakley, a retired environmental expert from Los Alamos National Laboratory, hired by the Energy Department as an outside consultant. "I'm not convinced anyone understands the chemistry and physics involved in this crust."

The 20-year-old tank, called SY-101, is buried just under the surface at the Hanford nuclear

reservation, 20 miles from Richland, a city of about 32,000 people. The tank produces unwanted hydrogen as radiation fields bombard organic chemicals that were added years ago in what officials now say was a mistaken strategy to reduce the waste's volume.

Until six years ago, the hydrogen was emitted in huge releases that official studies call burps, causing "waste-burps," chunks of waste floating on the surface, to roll over.

"... Now we've got another problem, caused by the solution to that problem," said Stephen Agnew, a chemist who worked at Hanford for years. "Unfortunately, there doesn't seem to be an end to it," he said.

The Ledger Independent, 11/4/99, 6-B.
**Congressional study says
North Korea threat increasing**

By GEORGE GEDDA
Associated Press

WASHINGTON - North Korea's development of weapons of mass destruction is posing an increasing threat to the United States and its allies, according to a congressional study.

In addition to chemical and biological weapons, there is "significant evidence" that North Korea is continuing to develop nuclear weapons despite a commitment five years ago to remain nuclear free, the report released Wednesday found.

Also, a dramatic improvement in North Korea's missile capabilities now permits the country to reach U.S. territory with a "high explosive chemical, biological, or possibly nuclear weapon," according to the report. "Currently, the United States is unable to defend against this threat."

The study was carried out by the North Korea Advisory Group, made up of senior members of Congress. The group was formed at the request of House Speaker Dennis Hastert, R-Ill., who asked for a report on North Korea's military capabilities.

In releasing the report, the chairman of the House International Relations Committee, GOP Rep. Benjamin Gilman of New York, said it was "inexplicable and inexcusable" that the Clinton administration negotiated a deal with North Korea in 1994 that did not block North Korean efforts to acquire nuclear weapons.

The report said the progress that North Korea "has made over the past five years in improving its missile capabilities, its record as a major proliferator of ballistics missiles and missile technology, combined with its development activities on nuclear biological and chemical weapons, ranks North Korea with Russia and China as one of the greatest missile proliferation threats in the world."

State Department officials said they had not seen the report. But they reaffirmed the administration's view that the 1994 agreement froze North Korean plutonium production, thereby depriving Pyongyang of the ability to produce a "significant number of nuclear weapons."

As for the allegations in the report of an undeclared North

Korean nuclear weapons project, the official recalled that U.S. technical experts were granted access to a suspect site last spring and found no nuclear-related activity there. The experts have been assured continuing access to the site.

If similar suspect activities are being carried out elsewhere, the administration would raise the issue with the North Koreans, said the official, speaking on condition of anonymity.

In a report last month, former Defense Secretary William Perry, a special adviser on North Korea policy, suggested he shares some of the same concerns as the congressional advisory group. He acknowledged that "serious concerns" remain about possible "continuing nuclear-related work in North Korea."

On the missile front, officials pointed out that U.S.-North Korean negotiations led two months ago to an agreement by Pyongyang not to engage in further testing of long-range missiles so long as the negotiating channel with the United States remains open.